

(b) Except as provided in paragraph (c) of this section—

(1) The depth of a well must be at least 18 inches (45.7 cm) less than the depth of the double bottom at the centerline; and

(2) The well may not extend below the horizontal plane C illustrated in Figure 171.105.

(c) A well may extend to the outer bottom of a double bottom at the after end of a shaft tunnel.

**§ 171.108 Manholes in double bottoms.**

(a) The number of manholes in the inner bottom of a double bottom required by § 171.105 must be reduced to the minimum required for adequate access.

(b) Each manhole must have a cover that can be—

(1) Made watertight; and

(2) Protected from damage by cargo or coal.

**§ 171.109 Watertight floors in double bottoms.**

If a vessel is required to have a double bottom, a watertight transverse division must be located in the double bottom under each main transverse watertight bulkhead or as near as practicable to the main transverse watertight bulkhead. If a vessel also has duct keels, the transverse divisions need not extend across them.

**Subpart E—Penetrations and Openings in Watertight Bulkheads**

**§ 171.110 Specific applicability.**

(a) Sections 171.111, 171.112, and 171.113 apply to each vessel of 100 gross tons or more.

(b) Section 171.114 applies to each vessel under 100 gross tons.

[CGD 79-023, 48 FR 51017, Nov. 4, 1983, as amended by CGD 85-080, 61 FR 945, Jan. 10, 1996; 62 FR 51353, Sept. 30, 1997]

**§ 171.111 Penetrations and openings in watertight bulkheads in vessels of 100 gross tons or more.**

(a) Except as provided in paragraph (f) of this section, each opening in a watertight bulkhead must have a means to close it watertight.

(b) Except in a machinery space, the means for closing each opening may not be by bolted portable plates.

(c) If a main transverse watertight bulkhead is penetrated, the penetration must be made watertight. Lead or other heat sensitive materials must not be used in a system that penetrates a main transverse watertight bulkhead if fire damage to this system would reduce the watertight integrity of the bulkhead.

(d) A main transverse watertight bulkhead must not be penetrated by valves or cocks unless they are a part of a piping system.

(e) If a pipe, scupper, or electric cable passes through a main transverse watertight bulkhead, the opening through which it passes must be watertight.

(f) A main transverse watertight bulkhead may not have non-watertight penetrations below the bulkhead deck unless—

(1) The margin line is more than 9 inches (23 centimeters) below the bulkhead deck at the intersection of the margin line and the line formed by the intersection of the plane of the main transverse watertight bulkhead and the shell; and

(2) Making all penetrations watertight is impracticable.

(g) Penetrations approved in accordance with paragraph (f) of this section must comply with the following:

(1) The bottom of the penetration must not be located—

(i) More than 24 inches (61 centimeters) below the bulkhead deck; nor

(ii) Less than 9 inches (23 centimeters) above the margin line.

(2) The penetration must not be located outboard from the centerline more than ¼ of the beam of the vessel measured—

(i) On the bulkhead deck; and

(ii) In the vertical plane of the penetration.

(h) No doors, manholes, or other access openings may be located in a watertight bulkhead that separates two cargo spaces or a cargo space and a permanent or reserve bunker.

**§ 171.112 Watertight door openings.**

(a) The opening for a watertight door must be located as high in the bulkhead and as far inboard as practicable.